UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 2 8 2017

REPLY TO THE ATTENTION OF
WC-15J

CERTIFIED MAIL 7009 1680 0000 7645 7781
RETURN RECEIPT REQUESTED

Richard Sauget, Jr., Mayor
Village of Sauget
2897 Falling Springs Road
Sauget, Illinois 62206-1123

Subject: August 15 to 18, 2016 Pretreatment Inspection Report for the American Bottoms Regional Wastewater Treatment Facility, Sauget, IL

Dear Mayor Sauget:

Please find enclosed a copy of the inspection report generated as a result of the pretreatment compliance inspection of the American Bottoms Regional Wastewater Treatment Facility (ABRWTF), conducted by the U.S. Environmental Protection Agency from August 15 to 18, 2016. The purpose of the inspection was to conduct a review of ABRWTF's pretreatment program and its implementation. During the inspection, we found several areas of concern; these are listed in the enclosed report. Please provide a written response to the areas of concern identified in the report within 30 days. In your response, please include a description of actions taken to correct any issues documented in the inspection report. Your response should be mailed to:

Newton Ellens, Water Division, EPA Region 5
77 W. Jackson Blvd. (WC-15J)
Chicago, Illinois 60604-3590

If you have any questions or concerns regarding this letter, or the inspection report, please contact Newton Ellens at 312-353-5562 or at ellens.newton@epa.gov.

Sincerely,

Ryan Bahr, Section Chief
Water Enforcement and Compliance Assurance Branch
Section 2

Pretreatment Compliance Inspection of the Village of Sauget, IL

IDENTIFICATION

Control Authority Name and Address
Village of Sauget
2897 Falling Springs Rd.
Sauget, IL 62206

American Bottoms Regional Wastewater Treatment Facility
1 American Bottoms Road
Sauget, IL 62201

Responsible Official
Rich Sauget Jr., Mayor

Inspection Dates
August 15 to 18, 2016

Inspection Participants

Josh Kathrinus, Laboratory and Compliance Manager
Kay Anderson[1]

U.S. Environmental Protection Agency
Newton Ellens, Pretreatment Program Manager
Keith Middleton, Environmental Engineer
David Hahn, Environmental Scientist
Sreedevi Yedavalli, Environmental Protection Specialist

Inspector: Newton Ellens, Pretreatment Program Manager

Inspector Signature: Newton Ellens

Report Date: 6/28/17

Approver Name & Title: Ryan Bahr, Chief, Compliance Section 2

Approver Signature: Ryan J Bahr

Approval Date: 6/28/17

[1] Ms. Anderson briefly participated in the inspection, mainly to answer questions, and during the closing conference.

The U.S. Environmental Protection Agency conducted a federal pretreatment compliance inspection (PCI) of the Village of Sauget (Village or Sauget) from August 15 through 18, 2016. The purpose of the inspection was to evaluate the procedures and implementation of the Sauget pretreatment program, specifically regarding the permits, inspections, compliance monitoring, and enforcement of its non-domestic users. The inspection was meant to evaluate compliance from July 2014 through July 2016. The inspection consisted of:

1. Review of Preliminary Submittals Prior to Onsite Inspection;
2. An Interview with Josh Kathrinus, Laboratory and Compliance Manager;
3. Industrial user (IU) file reviews;
4. An IU site visit at Afton Chemical Corp., Sauget, IL, and
5. A tour of the American Bottoms Physical-Chemical (PChem) Plant.

BACKGROUND AND HISTORY

The Sauget publically-owned treatment works (POTW) includes two wastewater treatment plants: the American Bottoms Regional Wastewater Treatment Facility (ABRWTF), and the PChem Plant. The following description for the plants is taken from an American Bottoms Regional Wastewater Treatment Facility webpage (www.americanbottoms.com):

> American Bottoms Regional Wastewater Treatment Facility is located in Sauget, Illinois. The plant provides preliminary, primary, and secondary treatment for wastewater from the city of East St. Louis, the Village of Cahokia and areas in Centerville Township served by the Commonfields of Cahokia Public Water District. The plant also provides secondary treatment for all industrial and residential wastewater from the Village of Sauget, which has undergone preliminary and primary treatment at the Sauget Physical/Chemical Wastewater Treatment Plant.

The Illinois Environmental Protection Agency (IEPA) issued NPDES Permit Number IL0065145 (Permit IL0065145) to the Village for operation of ABRWTF. Special Condition 8 in this permit includes Pretreatment Program General Provisions. Basically, these provisions require the Village to implement and enforce its approved Pretreatment Program.

On April 11, 2014, ABRWTF submitted a request for clarification (Attachment 1) regarding its acceptance of hauled waste from industrial users (IUs) located in outside jurisdictions. Specifically, ABRWTF asked if could act as a Control Authority [as defined in 40 C.F.R. § 403.3(f)] through written contracts of agreements with IUs located in outside jurisdictions.

According to the 2015 annual report, the maximum influent mercury concentration at the POTW was 13 µg/L. Under Title 35, Section 304.126 of the Illinois Administrative Code, no person shall cause or allow the concentration of mercury in any effluent to exceed 0.0005 mg/L, subject to the averaging rule contained in Section 304.104(a).

According to Toxics Release Inventory (TRI) data, there are three Sauget IUs that discharged waste to the POTW in 2014:

Facility	Non-metal transfers to POTWs (lbs)	Metal and metal compound transfers to POTWs (lbs)	Comment
Afton Chemical Corp.	78,566	883	Afton discharged 72,000 lbs of methanol.
Big River Zinc		1,322	Big River Zinc is not listed as an IU in the pretreatment program.
Veolia ES Technical Solutions LLC	91		Veolia discharged 91 lbs of ammonia.

REVIEW OF PRELIMINARY SUBMITTALS

Prior to the inspection, and in response to EPA's request, ABRWTF sent the following documents:

1. Copies of significant industrial user (SIU) permits and fact sheets;
2. An American Bottoms Pretreatment Program description;
3. A description of the ABRWTF hauled wastewater program;
4. A copy of Permit IL0065145;
5. Supplemental Data/Review form;
6. Pretreatment Program Status Update; and its
7. Pretreatment Program Profile.

According to the submitted documents:

1. A pretreatment program was developed for ABRWTF and PChem.
2. The Village only has local limits for the following pollutants:
    a. Total Kjeldahl Nitrogen (TKN);
    b. Fluoride;
    c. Iron; and
    d. Manganese.
3. EPA approved the Village's request to modify its sewer use ordinance (SUO) and incorporate streamlining regulations.

INSPECTION OBSERVATIONS

Newton Ellens, Keith Middleton, David Hahn, and Sreedevi Yedavalli (EPA) entered the ABRWTF on August 15, 2016 to conduct the inspection. Messrs. Ellens and Middleton presented their credentials upon entering. Mr. Ellens described the purpose of the PCI and stated that EPA reviewed previously submitted materials, would review existing pretreatment files, ask questions and finish the inspection shadowing the ABRWTF's inspectors during industrial user

site visits. A summary of the findings is presented below, including required and recommended actions on Sauget's pretreatment program.

ABRWTF operates the POTW and the pretreatment program. ABRWTF serves the following municipalities through a regional agreement:

1. Village of Cahokia;
2. Village of Sauget;
3. East St. Louis;
4. Alorton;
5. City of Centerville; and the
6. Commonfields of Cahokia Public Water District

ABRWTF was constructed using municipal bonds issued by the Village of Sauget. Those bonds were underwritten by the Sauget Sanitary Development and Research Association (SSDRA), a not for profit organization. SSDRA has a board composed of four IU representatives (Solutia, Afton, Cerro, and Veolia) and the Mayor of Sauget. Both PChem and ABRWTF are owned by the Village, and operated by SSDRA.

Following is a description of ABRWTF:

1. Sauget's satellite jurisdictions discharge wastewater to ABRWTF's headworks.
2. The average flow rate is 12 MGD.
3. The maximum flow rate is 57 MGD.
4. ABRWTF has the following treatment/operating units:
    a. Grit removal;
    b. Primary clarifiers;
    c. Combination of flow with PChem's discharge;
    d. Secondary treatment:
        i. Anaerobic;
        ii. Aerobic.
    e. Final clarifiers.
5. ABRWTF's sludge undergoes the following treatment:
    a. Thickener;
    b. Belt filter press;
    c. Landfill disposal—Milam Landfill (Waste Management) in East St. Louis

Outside Sauget, the following jurisdictions have IUs:

1. Village of Cahokia:
    a. Jet Aviation;
    b. Judith Lane (a remediation site).
2. East St. Louis:
    a. NuPlex;
    b. Safety-Kleen;
    c. Tank Trailer Cleaning;

d. NEI;
e. Alton and Southern Railway.

3. Village of Alorton:
   a. Solvay Fluorides.

We asked about discharges with significant metal concentrations from Big River Zinc. According to Toxics Release Inventory (TRI) data, Big River Zinc reported 1,322 lbs of metals and metal compound transfers to POTWs in 2014. Josh Kathrinus responded that Big River Zinc is no longer in business. Jet Holdings, an intermodal product exchange facility, acquired the property. Jet Holdings has an IU permit, but discharges virtually no process wastewater.

We asked about the 13 µg/L mercury influent concentration (according to the 2015 Annual Report). Mr. Kathrinus replied that Huntsman, a former IU, closed down and was demolished. Mr. Kathrinus believed that the mercury concentration spike resulted from the demolition activities.

SUPPLEMENTAL DATA REVIEW/INTERVIEW

Pretreatment Program Modification:

In spring 2014, ABRWTF issued correspondence to EPA, regarding certain parts of its pretreatment program. Specifically, ABRWTF

1. Asked for clarification about how it could regulate waste haulers located outside its jurisdiction.
2. Requested permission to reduce minimum POTW monitoring and inspection frequencies for significant non-categorical users.

EPA responded that these were substantial modifications, and asked ABRWTF to wait for its decision.

ABRWTF has applied for, and received, a removal credit (under 40 C.F.R. § 403.7) for toluene. At the time of the inspection, the removal credit had not been incorporated into Permit IL IL0065145.

Legal Authority:

Sauget has intergovernmental agreements with contributing jurisdictions. ABRWTF stated that Sauget's SUO applies in the contributing jurisdictions. Each jurisdiction that discharges to ABRWTF is responsible for its own collection system. However, if there is a problem in any contributing jurisdiction's collection system, ABRWTF will work with that jurisdiction to resolve it.

Through the intergovernmental agreements, ABRWTF conducts Control Authority activities within Sauget and the contributing jurisdictions. Sauget and its contributing jurisdictions are collectively called the "Region."

IU Characterization:
ABRWTF uses the definition for an SIU as written in 40 C.F.R. § 403.3.

ABRWTF has an extensive industrial waste survey (IWS) process. ABRWTF documents an annual IWS using the following tools:

1. Customer billing records;
2. Haines directory;
3. Internet maps;
4. Drive-by inspections;
5. Site specific evaluations;
6. Notice mailings;
7. Survey mailings.

ABRWTF uses inspections and billing records to determine how and when each IU significantly changes its wastewater discharge.

ABRWTF identifies 17 IUs as SIUs: Eight CIUs and seven non-categorical SIUs. Two of the SIUs are remediation sites:

1. Solutia—Site R
2. Judith Lane (This site has never discharged wastewater.)

Control Mechanism Evaluation:
ABRWTF has issued permits to the SIUs in the Region.

In order to determine each SIU's permit limits, ABRWTF evaluates the following:

1. Materials on-site;
2. Information submitted in the SIU permit application;
3. Type of pretreatment used for wastewater;
4. Material Safety Data Sheets;
5. Preliminary sample analysis;
6. Research on IU type.

ABRWTF has a hauled waste program. ABRWTF issues different types of control mechanisms to waste haulers, depending on the type. ABRWTF issues:

1. Wastewater agreements to IUs within the Region, and
2. Pretreatment contracts to IUs that are located outside the Region.

Haulers must submit waste manifests, and ABRWTF collects samples from haulers for analysis. For any hauler designated as a SIU, located outside the Region, and not permitted by its local Control Authority, ABRWTF issues an additional contract with permit conditions.

Application of Pretreatment Standards and Requirements:
Sauget's SUO has non-uniform local limits for three pollutants:

1. Iron and manganese for Elementis Pigments, Inc., East St. Louis, IL:[2]
    a. 590 mg/L (daily maximum)
    b. 160 mg/L (monthly average)
2. Fluoride load limits for Solvay Fluorides, Alorton, IL:
    a. 2,600 lbs/day (daily maximum)
    b. 1,200 lbs/day (monthly average)
3. TKN limits for Solutia—W.G. Krummrich Plant:
    a. 6,000 lbs/day (monthly maximum)
    b. 7,500 lbs/day (7-day moving average)

The SUO gives TKN mass limitations to the Solutia – W.G. Krummrich Plant. However, this plant is now known as the Eastman Chemical Plant.

The SUO includes the following ammonia nitrogen limits for IUs other than Solutia:

1. 50 mg/L (24-hour composite);
2. 75 mg/L (grab sample); and
3. 50 lb/day (daily maximum).

ABRWTF staff stated that they applied to EPA to remove these ammonia limits about eight to ten years ago. ABRWTF staff stated that EPA did not comment on the change.

As shown above, all of the local limit pollutants were allocated to individual SIUs. I asked if SIUs, other than Solvay Fluorides and Solutia, should have non-uniform limits for fluoride and TKN. ABRWTF staff replied that they did not expect any discharges of local limit pollutants from other SIUs. One exception is Jet Aviation; this SIU has the potential to discharge TKN. ABRWTF put Jet Aviation on a monitoring schedule for TKN.

ABRWTF has identified the following pollutants of concern beyond those in local limits:

1. Oil and grease;
2. Pesticides/herbicides;
3. Radionuclides; and
4. Acrolein.

Compliance Monitoring:
ABRWTF inspects SIUs annually. Middle-tier IUs are inspected bi-annually. However, in 2014, ABRWTF requested a program modification allowing a bi-annual inspection frequency for all non-categorical SIUs. Therefore (apparently in anticipation of EPA's acceptance of the modification request), ABRWTF did not inspect any non-categorical SIUs in 2014. Since then, ABRWTF has returned to inspecting all SIUs (including non-categorical SIUs) annually.

All SIUs (except for two remediation sites) have a slug discharge control plan (SDCP).

[2] ABRWTF staff stated that Elementis Pigmentis is no longer in business.

Enforcement:
ABRWTF published two SIUs on April 9, 2016 for being in significant noncompliance (SNC):

1. Tank Trailer Cleaning [for violating Silica Gel Treated n-Hexane Extractable Material (SGT-HEM) limits];
2. Metro East Industries (for violating reporting requirements).

ABRWTF experienced two recent problems caused by SIU discharges:

1. On July 14, 2016, Afton Chemical's violating chemicals discharge triggered elevated lower explosive limit (LEL) meter alarms. The discharge triggered an explosion at the plant site. ABRWTF issued a Notice of Violation (NOV) for this discharge.
2. On July 26, 2016, Solutia's wastewater discharge had elevated chlorine levels. ABRWTF issued a cease and desist order to Solutia.

Data Management/Public Participation:
If an SIU claims that submitted documents should be classified as confidential, Ms. Anderson would evaluate the claim and make the final determination.

ABRWTF's procedure to process public requests for information under the Freedom of Information Act (FOIA) is under legal review.

Resources:
ABRWTF devotes 3.0 full-time equivalents (FTEs) towards implementing the pretreatment program.

For sampling, ABRWTF uses 10 to 12 refrigerated ISCO composite samplers and one to two non-refrigerated ISCO composite samplers.

The estimated annual operating budget for the pretreatment program is $390,000.

Required Actions
ABRWTF takes the role of Control Authority for the Sauget pretreatment program. However, Sauget is the approved Control Authority as defined under 40 C.F.R. § 403.3(f), and is responsible for meeting pretreatment regulations.

Under 40 C.F.R. § 403.8(f)(vi), Sauget must investigate instances of noncompliance with Pretreatment Standards and Requirements. Under 40 C.F.R. § 403.5(c)(1), Sauget must develop and enforce specific limits to prevent pass through and interference. Huntsman, a former IU, closed down and was demolished. ABRWTF staff believed that a mercury concentration spike resulted from the demolition activities. Sauget must investigate such instances of noncompliance, and develop and enforce a mercury local limit.

Under 40 C.F.R. § 403.5(c), each POTW developing a POTW Pretreatment Program pursuant to § 403.8 shall develop and enforce local limits. Each POTW with an approved pretreatment program shall continue to develop local limits as necessary and effectively enforce such limits. Following are local limit development issues:

1. Sauget's SUO has iron and manganese local limits for Elementis Pigments, Inc. This company, however, is no longer in business.
2. Solutia has a non-uniform TKN limit. Sauget must account for its TKN loading by giving a TKN limit or discharge prohibition to all other IUs. All other IUs, however, do not have a TKN limit.
3. Solvay Fluorides has a non-uniform fluoride limit. Sauget must account for its fluoride loading by giving a fluoride limit or discharge prohibition to all other IUs. All other IUs, however, do not have a fluoride limit.
4. The SUO gives TKN mass limitations to the Solutia – W.G. Krummrich Plant. However, this plant is now known as the Eastman Chemical Plant.

40 C.F.R. § 403.8(f)(2)(v) requires POTWs to inspect and sample the effluent from each Significant Industrial User at least once a year. In 2014, ABRWTF requested a program modification allowing a bi-annual inspection frequency for all non-categorical SIUs. Therefore (apparently in anticipation of EPA's acceptance of the modification request), ABRWTF did not inspect any non-categorical SIUs in 2014.

INDUSTRIAL USER FILE REVIEWS

Tank Trailer Cleaning, Inc.
1102 N. First St.
East St. Louis, IL 62201

File review and primary author: Newton Ellens

According to IU files, Tank Trailer Cleaning, Inc. (TTC) cleans empty (1) petroleum and food grade transportation truck trailers and (2) intermodal tank containers. ABRWTF categorizes TTC as an existing source under 40 C.F.R. Part 442—Transportation Equipment Cleaning Point Source Category. TTC's average process flow rate is 51,000 gallons per day (gpd).

Issuance of Control Mechanism:
ABRWTF issued permit No. 16B-121 (Permit No. 16B-121) to TTC.

Permit No. 16B-121 has the following issues:

1. The permit does not include local limits for ammonia nitrogen.
2. The permit has two mercury concentration limits (through 24-hour flow composite sampling). The local limit is 0.001 mg/L and the categorical limit is 0.0031 mg/L. The permit does not state that the more stringent limit (0.001 mg/L) applies.

3. The permit does not expressly include upset notification provisions. The permits don't describe the elements required to be in an upset notification under 40 C.F.R § 403.16(c)(3). Instead, these notification provisions are partially incorporated by reference.
4. The permit does not expressly include bypass notification provisions. The permits don't describe the elements required to be in a bypass notification under 40 C.F.R § 403.17(c)(2). Instead, these notification provisions are partially incorporated by reference.

Control Authority Compliance Monitoring:
The ABRWTF sample analysis reports do not include results for ammonia.

Some of ABRWTF's sample analysis methods did not match methods listed in 40 C.F.R. Part 136:

1. According to a July 27, 2016 analytical report, the analytical method used for simazine is Method 8270C. The correct EPA Methods (listed in 40 C.F.R. Part 136) are: 505, 507, 619, and 1656.
2. According to an April 26, 2016 analytical report, EPA Method 625 was used to analyze the pollutants listed in the chart below. The correct EPA Methods (listed in 40 Part 136) are listed in the next column:

Pollutant	**EPA Methods**
Atrazine	507, 619, 525.1, and 525.2
Diazinon	507, 614, 622, 1657, and 525.2
Disulfoton	

IU Compliance Status:
According to a September 11, 2015 chain of custody form for TTC, the analytical method to be used for atrazine is Method SW8270C Mod. The correct EPA Methods (listed in 40 C.F.R. Part 136) are: 507, 619, 525.1, and 525.2.

Required Actions
40 C.F.R. § 403.8(f)(1)(iii)(B)(3) states that control mechanisms must include effluent limits, including Best Management Practices, based upon applicable general Pretreatment Standards in 40 C.F.R. Part 403, categorical Pretreatment Standards, local limits, and State and local law). Permit No. 16B-121 has the following effluent limit issues:

1. The permit does not include the SUO local limit for ammonia-nitrogen.
2. The permit has two mercury concentration limits (through 24-hour flow composite sampling). The local limit is 0.001 mg/L and the categorical limit is 0.0031 mg/L. The permit does not state that the more stringent limit (0.001 mg/L) applies.

40 C.F.R. § 403.8(f)(1)(iii)(B)(4) states that control mechanisms must include notification requirements, among other things. Under 40 C.F.R. § 403.17(c)(2), an industrial user must provide a written notice of an unanticipated bypass. This notice must contain (among other

things), the anticipated time a bypass is expected to continue, if it has not been corrected at the time of the notice. The bypass notification requirement in Permit No. 16B-121 incorporates this provision by reference, but it is not expressly written in the permit.

40 C.F.R. § 403.8(f)(1)(iii)(B)(4) states that control mechanisms must include notification requirements, among other things. Under 40 C.F.R. § 403.16(c), an Industrial User who wishes to establish the affirmative defense of an upset must, among other things, submit the following information to the POTW and Control Authority within 24 hours of becoming aware of the Upset (if this information is provided orally, a written submission must be provided within five days):

1. A description of the Indirect Discharge and cause of noncompliance;
2. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue;
3. Steps being taken and/or planned to reduce, eliminate and prevent recurrence of the noncompliance.

The upset notification requirement in Permit No. 16B-121 incorporates this provision by reference, but it is not expressly written in the permit.

40 C.F.R. § 403.8(f)(2)(v) requires POTWs to randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. The ABRWTF sample analysis reports do not include results for ammonia.

Under 40 C.F.R. § 403.8(f)(2)(vii), sample taking and analysis and the collection of other information shall be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions. Some of ABRWTF's sample analysis methods did not match methods listed in 40 C.F.R. Part 136.

Under 40 C.F.R. § 403.12(g)(5), all analyses conducted by Industrial Users for self-monitoring requirements shall be performed in accordance with procedures established by the Administrator pursuant to section 304(h) of the Clean Water Act and contained in 40 C.F.R. part 136 and amendments thereto or with any other test procedures approved by the Administrator. According to a September 11 2015 chain of custody form for TTC, the analytical method to be used for atrazine is Method SW8270C Mod.

Solvay Fluorides, LLC
3500 Missouri Ave.
Alorton IL 62205

File review: David Hahn
Primary Author: Newton Ellens

Solvay Fluorides, LLC (Solvay) is a chemical packaging and dilution company. ABRWTF classifies Solvay as a non-categorical SIU. The average total flow rate at the Solvay facility is 36,884 gpd. ABRWTF issued Permit No. 13B-112 to Solvay.

Issuance of Control Mechanism:
Permit No. 13B-112 includes effluent limits for total uranium plus total thorium. The permit states that radionuclides limits apply to persons licensed by the Illinois Emergency Management Agency; however, ABRWTF deemed those limits to be appropriate for Solvay.

Control Authority Compliance Monitoring:
ABRWTF did not inspect Solvay in 2014.

A February 11, 2015 sample analysis report includes a chain of custody form that accounts for samples taken from two industrial users (Solvay and Big River Zinc). According to the chain of custody form, it appears that ABRWTF used one sampler at those two industrial users on the same day.

The ABRWTF sample analysis reports do not include results for thorium.

Control Authority Enforcement Activities:
ABRWTF did not take an enforcement action against Solvay for the following violations:

1. A March 16, 2015 oil and grease sample exceeded the required preservation temperature under 40 C.F.R. Part 136 (equal to or below 6°C).
2. Results from a May 8, 2015 sample showed Solvay's discharge exceeded the fluoride local limit.
3. In 2015 and 2016, Solvay's discharge rate ranged from about 10,000 gpd to about 115,000 gpd. However, Solvay did not submit a notification of a substantial change in its discharge under 40 C.F.R. § 403.12(j).

Required Actions
Under 40 C.F.R. § 403.8(f)(1)(iii)(B)(3), both individual and general control mechanisms must be enforceable and contain effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards in part 403 of this chapter, categorical Pretreatment Standards, local limits, and State and local law. Permit No. 13B-112 includes effluent limits for total uranium plus total thorium. The permit also states that radionuclides limits apply to persons licensed by the Illinois Emergency Management Agency (IEMA). Apparently, Solvay is not licensed by the IEMA. These limits do not appear to be applicable effluent limits for Solvay.

Under 40 C.F.R. § 403.8(f)(2)(v), POTWs must randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. POTWs must inspect and sample the effluent from each Significant Industrial User at least once a year. ABRWTF did not inspect Solvay in 2014.

Under 40 C.F.R. § 403.8(f)(2)(vii), sample taking and analysis and the collection of other information shall be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions. A February 11, 2015 sample analysis report includes a chain of custody form that accounts for samples taken from two industrial users (Solvay and Big River Zinc). According to the chain of custody form, it appears that ABRWTF used one sampler at those two industrial users on the same day.

Under 40 C.F.R. § 403.8(f)(2)(v), POTWs must conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance. The ABRWTF sample analysis reports do not include results for thorium.

Under 40 C.F.R. § 403.8(f)(5), POTWs must develop and implement an enforcement response plan. This plan shall contain detailed procedures indicating how a POTW will investigate and respond to instances of industrial user noncompliance. ABRWTF did not take an enforcement action against Solvay for the following violations:

1. A March 16, 2015 oil and grease sample exceeded the required preservation temperature under 40 C.F.R. Part 136 (equal to or below 6°C).
2. Results from a May 8, 2015 sample showed Solvay's discharge exceeded the fluoride local limit.
3. In 2015 and 2016, Solvay's discharge rate ranged from about 10,000 gpd to about 115,000 gpd. However, Solvay did not submit a notification of a substantial change in its discharge under 40 C.F.R. § 403.12(j).

Afton Chemical Corporation
501 Monsanto Avenue
Sauget, IL 62201

File reviewer and primary author: Keith Middleton
Secondary author: Newton Ellens

Issuance of Control Mechanism:
Afton Chemical Corporation (Afton) produces organic chemicals, including certain petroleum additives used primarily in motor oil or transmission fluid. ABRWTF classifies it as a categorical industrial user (CIU). On February 9, 2015, ABRWTF issued Wastewater Discharge Permit No. 14B-102 (Permit 14B-102) to Afton. This permit indicates that Afton is an existing source subject to 40 C.F.R. § 414, Subparts G (Bulk Organic Chemicals), H (Specialty Organic Chemicals), and K (Indirect discharge point sources). The permit has an effective date of February 9, 2016, and an expiration date of October 1, 2019.

Permit 14B-102 states different flow values for Afton:

- The Process Flow was 244,484 gallons per day (gpd);

- The Average Regulated Process Flow is 268,932 gpd (244,484 gpd x 1.1 flow variability variable);
- The Average Total Flow is 389,739 gpd.

Permit 14B-102 does not include local limits for any of the pollutant parameters, but does contain two State of Illinois mandatory effluent limits, from 35 Ill Administrative Code Part 307, for Mercury[3] and Total Cyanide.

Control Authority Application of Pretreatment Standards:
As stated above, ABRWTF has categorized Afton as a CIU, subject to 40 C.F.R. § 414 Subparts G, H, and K. To comply with Pretreatment Standards, Permit 14B-102 has categorical effluent limits for Volatile Organic compounds, Semi-Volatile Organic compounds, Lead, Zinc, and Total Cyanide effluent limits. The permit also has State effluent limits for Mercury and Total Cyanide. All of the samples are taken at Afton's Monitoring Location "A." There were no sampling frequencies in the permit for Cyanide, Lead, and Zinc.

The Mercury State effluent limits written in Permit 14B-102 don't equal the limits written in the State code. Under Section 304.126 of the Illinois Administrative Code, no person shall cause or allow the concentration of mercury in any effluent to exceed 0.0005 mg/L, subject to the averaging rule contained in Section 304.104(a). Under Section 304.104(a):

1. No monthly average shall exceed the prescribed numerical standard.
2. No daily composite shall exceed two times the prescribed numerical standard.
3. No grab sample shall exceed five times the prescribed numerical standard.

Therefore, the discrepancies between the mercury limits in Permit 14B-102 and the State code are as follows:

Limits under	Grab sample (mg/L)	Daily composite (mg/L)	Monthly average (mg/L)
Permit 14B-102	0.015	0.006	0.003
State code	0.0025	0.001	0.0005

Control Authority Compliance Monitoring:
ABRWTF did not take samples for Mercury and Total Cyanide in the second half of 2016.

Before this inspection was conducted, the ABRWTF conducted its annual 2016 inspection of Afton's facility. ABRWTF had also previously conducted it inspection in accordance with its approved program. The Afton IU file includes an inspection report from the last three years. Each report describes the different processes used at Afton, any follow-up on enforcement activities, and a walk through of the facility.

[3] The State mercury limits in Permit 14B-102 are incorrect, as shown in the chart on this page.

In Permit 14B-102, Afton had a requirement to develop and implement a slug discharge control plan. The requirements of the slug discharge control plan reflected the requirements in 40 C.F.R. § 403.8(f)(2)(vi). Afton IU file had a copy of Afton's slug discharge control plan.

Control Authority Enforcement Activities:
According to the Afton enforcement tracking log, Afton had the following discharge violations:

Pollutant parameter	2014	2015	2016
Benzene	1 (Nov 2014)		
Toluene		1 (Nov 2015)	
Chloromethane		1 (Nov 2015)	
Lower Explosive Limit			1 (July 2015)

According to the Afton IU file, ABRWTF issued two "Notice to Comply" letters to Afton for three separate violations that occurred in 2014 and 2015. In November 2014, Afton exceeded its effluent limitation for Benzene. In November 2015, Afton exceeded its effluent limitations for both Toluene and Chloromethane. For all of these exceedances, ABRWTF staff determined that significant non-compliance did not occur. In July 2014, ABRWTF sent Afton a "Cease and Desist" letter related to a hexane explosion that occurred within Afton's sewer collection system. As a result of this incident, ABRWTF staff developed a compliance schedule in the wastewater permit related to Afton developing a monitoring program for Lower Explosive Limit (LEL). At the time of this PCI, Afton had developed an action plan with procedures and protocol based on certain LEL monitoring reading at its compliance monitoring point. In July 2016, Afton exceeded its LEL criteria (reading was more than 50%), but Afton not did not follow the procedure of its developed action plan fully. ABRWTF staff sent Afton a "Notice of Violation" letter to resolve this noncompliance with its LEL action plan. This noncompliance was still being resolved at the time of this PCI. The "Notice to Comply," "Cease and Desist," and "Notice of Violation" procedures are explained in the ABRWTF's Sewer User Ordinance.

Required Actions:
ABRWTF did not perform its required Control Authority sampling for Cyanide in the second half of 2015 at Afton.

In June 2016, Afton exceeded its monthly cyanide concentration limit. In March and April 2016, Afton exceeded its monthly zinc concentration limit. This testing was performed by ABRWTF. Currently Afton's zinc, cyanide, and lead monitoring requirements have been waived based on the belief that the pollutant is not in the wastestream. Both Afton and ABRWTF representatives said that it could be a groundwater contribution of zinc from the former Big River Zinc site. It is unclear why Afton exceeded its cyanide limit. Under 40 C.F.R. § 403.12(e)(2)(vi), in the event that a waived pollutant is found to be present based upon changes in operations, then the IU must immediately comply with applicable monitoring requirements.

40 C.F.R. § 403.8(f)(1)(ii) requires compliance with applicable Pretreatment Standards and Requirements by Industrial Users. Afton's Permit 14B-102 and corresponding factsheet in different locations omit Afton from being categorized under 40 C.F.R. § 414 Subpart K.

40 C.F.R. § 403.8(f)(1)(iii)(B)(3) states that control mechanisms must include effluent limits, including local limits and limits based upon State law (among other limits). Permit 14B-102 does not include all local limits. Also, the mercury effluent limits are higher than the limits in the State code.

Recommended Actions
ABRWTF should modify Afton wastewater discharge permit so that it consistently uses the same name for the effluent monitoring location.

Cerro Flow Products, Inc.
3000 Mississippi Avenue
Sauget, IL 62206

File review and primary author: Sreedevi Yedavalli
Secondary author: Newton Ellens

Cerro is an existing facility, the IU file includes a Baseline Monitoring Report (BMR) which was submitted on April 4, 1986.

Issuance of Control Mechanism:
Cerro Flow Products (Cerro) is a manufacturing facility which performs fabrication of copper and copper alloys, processes include hot rolling spent lubrication, solution heat treating, pickling rinse and miscellaneous waste streams. ABRWTF classified this IU as a CIU. The Industry Summary Sheet and IU permit state that Cerro is an existing source subject to 40 C.F.R. § 468.14; following subparts are applicable: (a), (d), (k), (m), and (q). ABRWTF reissued Waste Water Discharge Permit No. 13B-108 to Cerro with an effective date of March 29, 2016, and an expiration date of November 1, 2018.

The statement of non-transferability in the permit does not require the provision that a copy of the permit to be provided to the new owner/operator.

The permit does not expressly include upset notification provisions. The permits don't describe the elements required to be in an upset notification under 40 C.F.R. § 403.16(c)(3). Instead, these notification provisions are partially incorporated by reference.

The Cerro fact sheet does not include a section that shows how ABRWTF calculated the daily mass limits written in Permit No. 13B-108, by using the limits in 40 C.F.R. § 468.14 and Cerro's average rate of production.

Permit No. 13B-108 states that compliance with the ammonia nitrogen local limit is to be determined by sampling and testing performed by the POTW; however, the ammonia nitrogen local limit has not been included in the permits and no sampling or monitoring data was found in the files.

Control Authority Application of Pretreatment Standards:
Currently Cerro has operations that fall under the following two subparts: 40 C.F.R. § 468.14(d) Solution Heat treatment (PSES) and (q) miscellaneous waste streams (PSES). However, the permit also listed categorical standards for (a), (k) & (m). Apparently, Cerro would like retain these in the permit in case Cerro would like to bring back these operations.

Permit No. 13B-108 references sampling location 40; however, there is no discharge from this location.

Control Authority Compliance Monitoring:
According to ABRWTF's analytical results for discharge samples collected, based on the IU file data, CA sampled for all parameters.

Control Authority Enforcement Activities:
Cerro is in compliance hence CA has not taken any enforcement actions.

Industrial User Compliance Status:
Except for flow, CA samples for all pollutants. Except for ammonia, all parameters were sampled as per Cerro's Permit (from July 2014 through July 2016).

Required Actions:
40 C.F.R. § 403.8(f)(1)(iii)(B)(2) states that IU permits must contain a statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator. The statement of non-transferability in Permit # 13B-108 does not require that a copy of the permit to be provided to the new owner/operator.

40 C.F.R. § 403.8(f)(1)(iii)(B)(4) states that control mechanisms must include notification requirements, among other things. Under 40 C.F.R. § 403.16(c), an Industrial User who wishes to establish the affirmative defense of an upset must, among other things, submit the following information to the POTW and Control Authority within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days):

1. A description of the Indirect Discharge and cause of noncompliance;
2. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue;
3. Steps being taken and/or planned to reduce, eliminate and prevent recurrence of the noncompliance.

The upset notification requirement in Permit No. 13B-108 incorporates this provision by reference, but it is not expressly written in the permit.

40 C.F.R. § 403.8(f)(1)(iii)(B)(3) states that IU permits must include effluent limits, including Best Management Practices, based upon applicable general Pretreatment Standards in 40 C.F.R. Part 403, categorical Pretreatment Standards, local limits, and State and local law). Permit No. 13B-108 does not include a local limit for ammonia.

40 C.F.R. § 403.8(f)(1)(iii)(B)(4) states that control mechanisms must indicate the sampling location. Permit No. 13B-108 references a sampling location 40; however, there is no discharge from this location.

40 C.F.R. § 403.8(f)(2)(iii) requires approved POTWs to notify all possible users which might be subject to the POTW Pretreatment Program of applicable Pretreatment Standards. Permit No. 13B-108 categorizes Cerro under 40 C.F.R. § 468.14(a), (k) and (m). Cerro; however, is not subject to these standards.

40 C.F.R. § 403.8(f)(2)(v) requires POTWs to randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. POTWs must inspect and sample the effluent from each Significant Industrial User at least once a year. Permit No. 13B-108 states that compliance with the ammonia nitrogen local limit is to be determined by sampling and testing performed by POTW; however, no sampling or monitoring data for ammonia nitrogen was found in the files.

Recommended Actions

The Cerro fact sheet does not include a section that shows how ABRWTF calculated the daily mass limits written in Permit No. 13B-108, by using the limits in 40 C.F.R. § 468.14 and Cerro's average rate of production [under 40 C.F.R. § 403.6(c)(3)]. Sauget should document how it determined the limits written in the permit.

Nuplex Resins, LLC
2904 Missouri Avenue
Sauget, IL 62207

File review and primary author: Sreedevi Yedavalli
Secondary author: Newton Ellens

Nuplex is an existing facility and the IU file includes a Baseline Monitoring Report (BMR) which was submitted on May 5, 1989.

Issuance of Control Mechanism:

Nuplex Resins LLC (Nuplex) manufactures a variety of synthetic resins used in the coating industry. After manufacturing, the resins are filtered, packaged and shipped to customers. The

operation performed by this facility is categorized as an existing source under 40 C.F.R. 414, Organic Compounds Plastics, Synthetic Fibers Category, subparts d and e.

Nuplex's discharge consists of domestic wastewater, non-contact cooling waters, equipment/facility wash down, and batch discharges from the pretreatment unit that pretreats wastewaters from the alkyd resins process and acrylic resins process. ABRWTF reissued Waste Water Discharge Permit No. 14B-103 to Nuplex with an effective date of March 29, 2016, and an expiration date of August 1, 2019.

The statement of non-transferability in the permits does not require the provision that a copy of the permit to be provided to the new owner/operator.

The permit does not expressly include upset notification provisions. The permits don't describe the elements required to be in an upset notification under 40 C.F.R. § 403.16(c)(3). Instead, these notification provisions are partially incorporated by reference.

Permit No. 14B-103 and the associated fact sheet state that the combined waste stream formula was used to calculate the limits; however, the limits are based on adjusted production based standards.

Permit No. 14B-103 states that compliance with ammonia nitrogen local limit is to be determined by sampling and testing performed by POTW; however, the ammonia nitrogen local limit has not been included in the permits and no sampling or monitoring data was found in the files.

Based on the fact sheet from the Nuplex IU file, following are the flows at the two monitoring locations: 1) 103-B-OCPSF - Average daily flow is 8,400 gpd, and
2) 103-C-Fenceline - Average daily flow – 114,174 gpd. (estimated domestic flow – 2,000 gpd; non-contact cooling water – 7,000 gpd; boiler blowdown – 2,000 gpd; storm water run-off – 40,000 gpd; process equipment facility wash down – 1,900 gpd, (all these flows do not add up to total flow of 114,174 gpd.)) POTW stated that total flow is higher because of inflow/infiltration.

Control Authority Application of IU Pretreatment Standards:
CA applied appropriate pretreatment categorical standards in the permit.

Control Authority Compliance Monitoring:
CA inspected the facility and sampled as per 403 requirements.

IU Compliance Status:
The IU did exceed some of the limits in the past; however, the magnitude of the violations was not significant enough to place the facility in SNC. The IU resampled and investigated the cause, but could not determine a basis for these violations.

Required Actions

40 C.F.R. § 403.8(f)(1)(iii)(B)(2) states that IU permits must contain a statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator. The statement of non-transferability in Permit No. 13B-108 does not require that a copy of the permit to be provided to the new owner/operator.

40 C.F.R. § 403.8(f)(1)(iii)(B)(4) states that control mechanisms must include notification requirements, among other things. Under 40 C.F.R. § 403.16(c), an Industrial User who wishes to establish the affirmative defense of an upset must, among other things, submit the following information to the POTW and Control Authority within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days):

1. A description of the Indirect Discharge and cause of noncompliance;
2. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue;
3. Steps being taken and/or planned to reduce, eliminate and prevent recurrence of the noncompliance.

The upset notification requirement in Permit No. 14B-103 incorporates this provision by reference, but it is not expressly written in the permit.

40 C.F.R. § 403.8(f)(1)(iii)(B)(3) states that IU permits must include effluent limits, including Best Management Practices, based upon applicable general Pretreatment Standards in 40 C.F.R. Part 403, categorical Pretreatment Standards, local limits, and State and local law. Permit No. 14B-103 and the associated fact sheet state that the combined waste stream formula was used to calculate the limits; however, the limits are based on adjusted production based standards.

40 C.F.R. § 403.8(f)(2)(v) requires POTWs to randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. POTWs must inspect and sample the effluent from each Significant Industrial User at least once a year. Permit No. 14B-103 states that compliance with the ammonia nitrogen local limit is to be determined by sampling and testing performed by POTW; however, no sampling or monitoring data for ammonia nitrogen was found in the files.

40 C.F.R. § 403.8(f)(2)(ii) requires POTWs to develop and implement procedures to identify the character and volume of pollutants contributed to the POTW by all IUs that might be subject to the POTW pretreatment program. The total of the individual flow rates from sources that combine to discharge at monitoring point 103-C-Fenceline is substantially different than the average daily flow rate at this point.

SITE VISITS

Afton Chemical Corporation
501 Monsanto Avenue
Sauget, IL 62201

Date of the site visit: Wednesday, August 17, 2016

EPA asked ABRWTF staff to conduct a typical pretreatment industrial user (IU) inspection at Afton Chemical Corporation (Afton). While ABRWTF personnel conduct the inspection, EPA would observe and ask questions to both ABRWTF and Afton representatives. Afton was selected by the EPA team based on being included in the IU file inspection and having four separate enforcement actions issued by ABRWTF in the last two-and-half years.

EPA and the ABRWTF staff arrived at Afton at approximately 1:30 pm. The EPA team consisted of Newton Ellens, David Hahn, Sreedevi Yedavalli, and Keith Middleton. The ABRWTF representatives included Josh Kathrinus, Steve Mundt, and Saad Alhajeri. Donna Parks Rakowski, on behalf of Afton, met EPA and the ABRWTF at the facility entrance. Messrs. Ellens and Middleton presented their credentials upon entering. After watching a short safety video and receiving the necessary personal protective equipment, EPA and ABRWTF staff headed to a conference room to start the interview portion of the inspection.

Afton Inspection Interview

Before the interview began, Mr. Ellens explained the purpose of the inspection, what EPA's role would be, and what EPA expected to be covered. Mr. Kathrinus noted that ABRWTF staff would prepare in advance of the inspection, looking up past Afton permit exceedances since the last inspection, results from the last inspection, including outstanding unresolved items, the current Wastewater Discharge Permit, and any other relevant information. ABRWTF utilizes a checklist when conducting the facility interview portion of the inspection. During this inspection, Mr. Mundt asked the checklist questions as Mr. Kathrinus and Mr. Alhajeri asked any follow-up inquires, based on Afton responses. The first questions on the checklist are general information questions. Afton then described its general production and pretreatment processes. Afton has nine different process areas called units. Unit 258 produces petroleum additives. Unit 266 produces Zinc Dialkyl Dithiophosphate (ZDDP), a motor oil supplement. Unit 267 makes certain petroleum products. Unit 268 makes an automatic transmission additive. Unit 270 produces hexane sulfate. Unit 275 produces an ash dispersion product that captures dirt in motor oil. Unit 280, Unit 287 and Unit 290 produces certain petroleum additives through unique processes. All of the process and different petroleum additives are made in batch processes. Units 258 and 275 produce the majority of wastewater; both units have wastewater pretreatment processes. In July 2016, Afton stopped using two chemicals (xylene and ethylbenzene) in Unit

267. Afton; however, did not notify Sauget about this substantial change in the character of its discharge.

ABRWTF staff then began discussing the pretreatment program enforcement with Afton that had occurred within the past year since the last inspection. This included exceedance violations for Toluene and Chloromethane in November 2015 and the Lower Explosive Limit (LEL) exceedance and the response in July 2016. The exceedances related to Toluene and Chloromethane have been resolved and Afton had not had any further related exceedances. ABRWTF then asked Afton about the LEL meter exceedance in July 2016 and discussed follow-up related to this indent. Afton was still addressing this exceedance at the time of this inspection. ABRWTF staff requested an update on Afton's progress in meeting the Compliance Schedule within the Afton Wastewater Discharge Permit. Afton has completed seven of the eight required activities in the compliance schedule, with the last required activity having steps due in December 2017.

ABRWTF staff then asked Afton to provide a list of documents. Afton had some of these items that were readily available, but, due to time constraints, offered to provide the rest of the compliance documents later, after the inspection. Typically, ABRWTF staff would arrive with enough time for Afton staff to assemble the documents that were requested.

Afton Site Walk-Through

The interview process ended at approximately 4:00 p.m. ABRWTF then conducted their normal investigation of the site with Afton, with EPA participating. The parities first headed from the conference room in Afton's administrative building to Afton's quality control laboratory, in order to see Afton's Mercury Control Plan. This plan basically describes the protocol concerning how Afton would response to a mercury spill in its quality control laboratory. Afton looked for both a paper copy and an electronic copy of the Mercury Control Plan, but was unable to locate it within the laboratory.

Next, ABRWTF, Afton, and EPA went to Afton's monitored outfall/compliance location at the southwest corner of its facility. During the walk to the outfall location, EPA observed the lack of secondary containment on chemical storage drums and silos throughout the Afton facility. In particular, six to eight 55-gallon drums near the lab were actively being used, with the drums on their sides and potentially dripping chemicals from where the drums had been tapped. Ms. Ratwoski noted that these chemicals were being used by the laboratory. At the monitoring outfall, EPA investigated the trapezoidal weir that Afton uses to measure flow out of its outfall, the automatic sampler that ABRWTF staff operated and maintained, and the LEL meter. Flow is measured from the Afton facility through the use of a hydrostatic device to determine the height through a trapezoidal weir. This trapezoidal weir is undersized and during certain times, especially during elevated wet weather flows, the trapezoidal weir is completely submerged in

water and unable to accurately measure flow. ABRWTF allows Afton to continue using this flow determination method based on the conclusion through Afton research that the flows are within a 10% error range.

ABRWTF then showed EPA staff the refrigerated sampler and the various meters it has measuring Afton's discharge. EPA noted that the certification for the thermometer used to ensure that that the sample was refrigerated to below 6 degrees Celsius was expired. ABRWTF had followed up on this concern and revealed during the overall PCI closing conference on August 18th that the certification was not expired; previously ABRWTF staff had mistakenly not attached the new expiration tab for 2016. EPA also observed a 0% reading on Afton's LEL meter.

Next, ABRWTF, Afton, and EPA began walking through the site outdoors to observe each of Afton's individual processes. Typically, ABRWTF staff conducts a walk-through of the whole site, observing the process units from the streets within the facility. For this inspection, ABRWTF focused on processing units with major on-going pretreatment of process water, Units 258 and 275. At Unit 258, Afton described the pretreatment process from an open door at the bottom floor. The treatment of the process wastewater here consists of benzene strippers with two collection tanks. Afton will test the water to ensure that that there is less than 25 ppm of benzene before discharging the water. If the testing reveals that there is more than 25 ppm of benzene, the wastewater will be run through the benzene strippers again. Unit 258's wastewater treatment process is approximately 25 years old.

At Unit 275, Afton described the process from an internal street to the east of the unit. Unit 275 produces a petroleum product that captures dirt within an automobile or motorcycle crankcase. The treatment of wastewater at Unit 275 consists of an air stripper. Also nitrogen is added to make the strippers more efficient. EPA observed more drums that were stored near sewer drains with no secondary containment. At least one of these drums was labeled "quarantine" but it was unclear what chemical or petroleum product was being stored inside the drum. ABRWTF staff opened a manhole near Unit 275 wastewater treatment system; EPA and ABRWTF did not observe any illicit discharges or oil sheens in the water at the bottom of the manhole. Afton staff did indicate that they cleaned and televised all of the sewers within the facility after the LEL incident in 2014. After Unit 275, ABRWTF, Afton, and EPA concluded the inspection and began to go back to the conference room in Afton's Administration Building. During the walk, once again, EPA noticed 55-gallon drums and 5-gallon containers stored near the north side of the laboratory. It appeared that some of the containers were not labeled and all of the containers were located close to the street with no secondary containment.

Afton Inspection Closing Conference

At 5:15 pm, ABRWTF conducted a closing conference with Afton in the same conference room as used previously. EPA noted the following concerns that it had observed during the inspection. These concerns included:

- Afton is required to notify POTW in advance about any substantial change in discharge under 40 C.F.R. § 403.12(j). Afton did not notify Sauget about its decision to stop using xylene and ethylbenzene in Unit 267.
- Trapezoid-shaped weir is undersized. Afton is not always able to report accurate flow values as required under 40 C.F.R. § 403.12(e)(1) and 40 C.F.R § 403.12(g)(1). ABRWTF is required to identify the character and volume of pollutants discharged to the POTW by SIUs under 40 C.F.R. § 403.8(f)(2)(ii).
- During the walk-through portion of the inspection, EPA noticed numerous exposed product containers that were stored outside with no secondary containment. It also appeared that some of these containers were not clearly labeled on what chemical were stored in the containers.
- Afton should have either a paper or electronic copy of its Mercury Control Plan readily available.

PCHEM SITE VISIT

Date of the site visit: August 18, 2016

Following is a description of the PChem plant:

1. The Village of Sauget discharges wastewater to PChem through a combined sewer system.
2. The Sauget collection system includes clay-lined pipes. These pipes are designed to handle extremely acidic or caustic wastewater.
3. Veolia discharges to PChem through a dedicated pipe. This is because of the Veolia plant's proximity to the PChem plant. Veolia is the only IU between ABRWTF and the Mississippi River. All of the other IUs are east of ABRWTF.
4. The average flow rate is 3 million gallons per day (MGD).
5. The maximum flow rate is 17 MGD.
6. PChem has the following treatment units:
    a. Bar screen;
    b. Oil removal;
    c. Grit removal;
    d. Neutralization;
    e. Flocculation; and
    f. Clarification.
7. Wasted sludge from PChem is sent to the Milam Landfill (Waste Management) in East St. Louis.
8. Treated effluent is discharged to ABRWTF through screw pumps and a transfer sewer

9. PChem has a 9 million-gallon wet weather storage facility.

CLOSING CONFERENCE

At the end of the pretreatment compliance inspection, we provided ABRWTF an overview of some observations and preliminary findings. We told ABRWTF that these are initial findings, and they are subject to management's review and amendments.

Pretreatment Program Modification

- ABRWTF applied to EPA to change the inspection frequency for non-categorical SIUs from annual to bi-annual. EPA did not approve this modification request. However; ABRWTF, apparently in anticipation of EPA's acceptance of the modification request, did not inspect any non-categorical SIUs in 2014. 40 C.F.R. § 403.8(f)(2)(v) requires approved POTWs to inspect and sample SIUs at least once a year. Also a decrease in the frequency of IU inspections or sampling by the POTW is defined as a substantial modification under 40 C.F.R. § 403.18(b)(5).
- ABWRTF did not inspect and sample at Solvay in 2014

Sewer Use Ordinance

- The SUO gives TKN mass limitations to the Solutia – W.G. Krummrich Plant. However, this plant is now known as the Eastman Chemical Plant. American Bottoms must update the IU name in the SUO.
- The SUO gives iron and manganese concentration limitations to the Elementis Pigments, Inc. East St. Louis facility. The Elementis facility; however, is out of business. American Bottoms must update the SUO to reflect the current situation.
- American Bottoms gave non-uniform allocations of the following pollutants to individual IUs:
    - Solutia (TKN)
    - Solvay (fluoride)
    - Elementis Pigments (iron and manganese)

  Since American Bottoms issued non-uniform local limits to these IUs, then the SUO and permits must indicate the proper non-uniform local limits for the remaining IUs.
- For Solvay, O&G is a local limit that isn't listed in the SUO. Uranium and thorium are listed in the permit as local limits, but are not in the SUO.

IU Characterization

- Tank Trailer Cleaning (TTC) cleans truck containers that carry hazardous and non-hazardous materials. The concentration of hazardous and non-hazardous pollutants in TTC's discharge is not clear. If TTC is discharging hazardous wastes, then it must submit a hazardous waste notification under 40 C.F.R. § 403.12(p). American Bottoms must identify the character and volume of pollutants discharged to the POTW by SIUs under 40 C.F.R. § 403.8(f)(2)(ii).

- In general, American Bottoms must identify the character of pollutants discharged to the POTW by SIUs under 40 C.F.R. § 403(f)(2)(ii). This could be done by requiring pollutant scans every permit cycle.

Issuance of Control Mechanism (The following apply to all the IU permits we reviewed, except as noted.)

- The statement of non-transferability in the Solvay permit doesn't require provision of a copy of the permit to the new owner/operator. [40 C.F.R. § 403.8(f)(1)(iii)(B)(2)]
- The upset notification provisions for CIUs are partly incorporated by reference. The permits don't describe the elements required to be in an upset notification under 40 C.F.R. § 403.16(c)(3). [40 C.F.R. § 403.8(f)(1)(iii)(B)(4)]
- The bypass notification provisions for IUs are partly incorporated by reference. The permits don't describe the elements required to be in a bypass notification under 40 C.F.R. § 403.17(c)(2). [40 C.F.R. § 403.8(f)(1)(iii)(B)(4)]
- The permits don't include the ammonia local limit from the SUO. [40 C.F.R. § 403.8(f)(1)(iii)(B)(3)]
- Applicable Effluent Limits [40 C.F.R. § 403.8(f)(1)(iii)(B)]
    - Solvay lists uranium and thorium limits in the permit as local limits, but notes they are from the Illinois Administrative Code. They are not listed in the SUO. Josh Kathrinus notes that thorium is no longer sampled for, but it is still listed in the permit.
- The Afton monitoring location description should be consistent throughout the permit and associated documents. The IU file gives three different descriptions for the same monitoring location:
    - 102 A – Fenceline (factsheet)
    - A (effluent limitations in permit)
    - 102A (LEL monitor location in permit)

Application of Pretreatment Standards

The Tank Trailer Cleaning permit has two mercury limits for daily composites:

- The state limit (0.001 mg/L)
- The categorical limit under Part 442 (0.0031 mg/L)

The permit must indicate that the more stringent limit—the state limit—applies.

- Page 2 of the Afton Fact Sheet reads that Afton is regulated under 40 C.F.R. 414 Subpart G and H. It should read that Afton is regulated under Subparts G, H, and K.

Tank Trailer & Cerro Flow Products File Reviews

The permits state that compliance with ammonia nitrogen local limit is to be determined by sampling and testing performed either by POTW or IU; however, the ammonia nitrogen local limit has not been included in the permits.

Nuplex Resins LLC File Review

The permit states that mass limits are based on an annual average flow from regulated processes of 9,240 gpd and the Combined Wastestream Formula (CWF) as defined in 40 C.F.R. § 403.6(e)(1)(i). However, POTW has not used CWF, instead the adjusted flow was calculated based on an EPA memo from 1994. The reference to CWF should be deleted.

CA Compliance Monitoring

- No sample analysis for ammonia [40 C.F.R. § 403.8(f)(2)(v)]
- Incorrect analytical methods [Part 136]:
  - Method 8270C, used for Simazine (7/27/16 report)
  - Method 625 (4/26/16 report)—used for the following pollutant parameters:
    - Atrazine
    - Diazinon
    - Disulfoton
- Solvay - ABRWTF did not inspect in 2014. The approved program requires annual sampling [40 C.F.R. § 403.8(f)(2)(v)]
- Solvay – For the 2015 and 2016 sample analysis reports—ABRWTF used a single chain of custody form to document sampling at multiple facilities. Sample dates and times should be written separately on each form to reduce confusion.
- ABRWTF may not have sampled for cyanide in the second half of 2015 at Afton.
- Recent cyanide and zinc testing at Afton revealed potential issues.
  - In June 2016, Afton exceeded its monthly cyanide concentration limit.
  - In March and April 2016, Afton exceeded its monthly zinc concentration limit.
  - Currently, Afton's zinc, cyanide, and lead limits have been waived based on the belief that the pollutant is not in the wastestream.
  - Both Afton and ABRWTF representatives said that it could be a groundwater contribution of zinc from the former Big River Zinc site. It is unclear why Afton exceeded it cyanide limit.
  - ABRWTF, however, did not provide any documentation, under 40 C.F.R. § 403.12(e)(2), to justify a monitoring waiver (i.e., sampling data, waiver provisions in the permit, and reasons supporting the waiver in the IU file).

IU Compliance Status

- TTC used the incorrect analytical method for Atrazine (Method SW8270C Mod) [Part 136]
- Solvay Discharge Violation [40 C.F.R. § 403.12(g)(2)]
  - The effluent exceeded the daily fluoride limit of 2600 lbs/day with a concentration of 6709.6 lbs/day on May 08, 2015. Solvay did not report the violation within 24-hours, but instead reported it on June 08, 2015.
- Solvay Reporting Violation [40 C.F.R. § 403.12(g)(2)]
  - The March 16, 2015 oil and grease sample exceeded the temperature limit of 6 C [Part 136] with a temperature of 7.42 C. This was not addressed in the report, and ABRWTF did not know of the violation.

- Solvay Notification of Significant Changes [40 C.F.R. § 403.12(j)]
    - Permit fact sheet lists average daily flow of 36,884 GPD. The 2015-2016 ADFs ranged from about 10,000 GPD to about 115,000 GPD. Josh Kathrinus stated he has not received a notification of significant changes since he started four or five months ago.

CA Enforcement Activities

- Discharge Violation Enforcement [40 C.F.R. § 403.8(f)(2)(vi)]
    - Solvay - ABRWTF did not enforce against the temperature exceedance for the March 16, 2015 oil and grease sample identified in the chain of custody form. No violations were provided in the ABRWTF violation folders.
    - Solvay - ABRWTF did not enforce against the May 8, 2015 exceedance of the fluoride local limit. No violations were provided in the ABRWTF violation folders.
- Reporting Violations Enforcement
    - Solvay - American Bottoms did not enforce against the significant changes in average daily flow at Solvay (2015-2016) reported in Solvay self-monitoring reports. No violations were provided in the American Bottoms violation folders.

Afton Chemical Site Visit Comments

- Afton is required to notify POTW in advance about any substantial change in discharge. In July 2016, Afton stopped using two chemicals (xylene and ethylbenzene). Afton did not report this change as required under 40 C.F.R. § 403.12(j).
- Trapezoid-shaped weir is undersized—Afton is not always able to report flow values as required under 40 C.F.R. §§ 403.12(e)(1) and 403.12(g)(1). American Bottoms is required to identify the character and volume of pollutants discharged to the POTW by SIUs under 40 C.F.R. § 403.8(f)(2)(ii).
- Exposed product containers are stored outside with no secondary containment.